

REMARKS/ARGUMENTS

Favorable reconsideration and allowance of the present application are respectfully requested in view of the following remarks. Claims 1-24 were pending prior to the Office Action.

In this Amendment, the specification is editorially amended. Also, the withdrawn claims 1-10 and 16-24 are canceled without prejudice or disclaimer. Claims 11, 12 and 14 are amended and claims 25-43 are added. As a result, claims 11-15 and 25-43 are pending, of which claims 11 and 12 are independent.

A. § 112, 2ND PARAGRAPH REJECTION

Claims 14 and 15 stand rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite. Claim 14 is amended to address this issue. Applicants respectfully request that the Section 112, second paragraph, rejection of the claims 14 and 15 be withdrawn.

B. PATENTABILITY OF THE CLAIMS

In the Office Action, claims 11-13 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Wada et al. (U.S. Publication No. 2002/0050289) in view of Fujisawa et al. (WO 2003/017378). Applicants respectfully traverse.

In the Office Action, Fig. 3 of Wada et al. is relied upon to disclose the claimed photoelectric conversion layer and the backside electrode formed on a substrate. It is indicated that Wada et al. is silent as to the substrate comprising a first transparent conductive layer formed on at least a part of the surface region of a substrate.

For clarification purposes, claim 11 is amended to distinguish between the structure that includes the substrate and the first conductive layer. The scope of claim 11 is not changed. As amended, the Office Action indicates that Wada et al. is silent as to the structure that comprises the first transparent conductive layer formed on at least a part of the surface region of a substrate.

On the contrary, Wada et al. does indicate a structure that comprises a transparent conductive layer on a glass substrate. In the Office Action, the combination of the glass substrate 11a and the irregular surface layer 11d, which make up the solar cell substrate 31. *Wada et al.*, 216. Wada et al. indicates that the irregular surface layer 11d is made of a transparent conductive material such as zinc oxide. *Wada et al.*, 219. Thus, Wada et al. does indicate a structure comprising a transparent conductor layer in the form of the irregular surface layer 11d.

Further, Wada et al. specifically teaches that the transparent conductive layer cannot not be either too thick or too thin. In 227, Wada et al. states:

the thickness of the transparent conductive film, when it is too thin, may result in undue characteristics as the solar cell. On the other hand, when it is too thick, transmittance and thus photo-electric conversion

efficiency is reduced by the increased series resistance, and the cost is increased. In view of these drawbacks, a thickness in a range of about 1nm to 50nm is preferable. *Emphasis added.*

In other words, the transparent conductive film cannot have any openings that expose the glass substrate.

This directly teaches away from the claimed feature. *See KSR v. Teleflex, 550 US 398, (2007) ("When the prior art teaches away from combining certain know elements, discovery of successful means of combining them is more likely to be non-obvious.")*. Therefore, Wada et al. cannot be combined with Fujisawa et al. or any other references to render claim 11 unpatentable. For this reason alone, claim 11 is distinguishable over the combination of Wada et al. and Fujisawa et al.

But in addition, Fujisawa et al. itself is deficient. In Fig. 1, Fujisawa et al. discloses forming a first undercoating film 1, a second undercoating film 2 and a conductive film 3 in this order on a glass sheet 5. The purpose of this structure is to form surface irregularities on the conductive film 3. *Fujisawa et al.*, 24-25. Thus, when Wada et al. and Fujisawa et al. are combined, Wada et al.'s device would be modified to include first and second undercoatings between the glass substrate 11a and the irregular surface layer 11d in Fig. 3 of Wada et al. Contrary to the Office Action, neither the irregular surface layer 11d of Wada et al. nor the conductive film 3 of Fujisawa et al. would be provided with the claimed opening portions exposing the substrate.

Yet further, the “undercoating film 1” disclosed in Fujisawa does not function as an electrode of a photoelectric conversion device. This is clear from Fig. 1 and corresponding descriptions in paragraphs [0027] – [0029] of Fujisawa. Specifically, Fig. 1 and the paragraphs indicate that an insulating medium such as silicon oxide and aluminum oxide is formed as the “undercoating film 2” stacked on the “undercoating film 1”, and that the “conductive film 3” that functions as an electrode of the photoelectric conversion device is stacked on the “undercoating film 2”. That is, the “glass sheet 5”, the “undercoating film 1” and the “undercoating film 2” disclosed in Fujisawa, at best, may correspond to the claimed “substrate” and the “conductive film 3” of Fujisawa may correspond to the claimed “transparent electrode layer. However, the “conductive film 3” of Fujisawa does not have an opening portion. The structure of the claimed invention that can be described as a transparent electrode layer that is formed on a substrate and that has an opening portion cannot be achieved even if the “conductive film 3” disclosed in Fujisawa is applied to the “irregular surface layer 11b” disclosed in Wada.

For at least these reasons, independent claim 11 is distinguishable over the combination of Wada et al. and Fujisawa et al.

For similar reasons, independent claim 12 is also distinguishable over the combination of Wada et al. and Fujisawa et al. Claim 13 is distinguishable over the same references by virtue of its dependency from independent claim 12, as well as on its own merits.

Claims 14 and 15 also depend from independent claim 12, and are therefore distinguishable over any of the cited references by virtue of their dependencies as well as on their own merits.

Applicants respectfully request that the rejection of claims 11-13 based on Wada et al. and Fujisawa et al. be withdrawn.

C. NEW CLAIMS

In this Amendment, claims 25-43 are added. No new matter is presented. These claims are distinguishable over any combination of the applied references by virtue of their dependencies from independent claim 11 as well as on their own merits. Applicants respectfully request that the new claims be allowed.

D. CONCLUSION

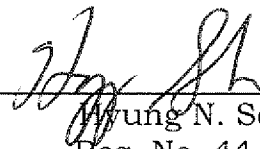
All objections and rejections raised in the Office Action having been addressed, it is respectfully submitted that the present application is in condition for allowance. Should there be any outstanding matters that need to be resolved, the Examiner is respectfully requested to contact Hyung Sohn (Reg. No. 44,346), to conduct an interview in an effort to expedite prosecution in connection with the present application.

The Commissioner is authorized to charge the undersigned's deposit account #14-1140 in whatever amount is necessary for entry of these papers and the continued pendency of the captioned application.

Respectfully submitted,

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By: _____


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